RE-ENTRANT SPACEBLOCK CONFIGURATION FOR ENHANCING CAVITY FLOW IN ROTOR ENDWINDING OF ELECTRIC POWER GENERATOR

ABSTRACT OF THE DISCLOSURE

A gas cooled dynamoelectric machine is provided that is comprised of a rotor, a rotor winding comprising axially extending coils and concentric endwindings, and a plurality of spaceblocks located between adjacent endwindings thereby to define a plurality of cavities, each bounded by adjacent spaceblocks and adjacent endwindings. To enhance the heat transfer rate from the copper end turns of the field endwinding region, the downstream wall of at least one spaceblock is contoured to lower a suction pressure developed at the trailing edge of the spaceblock. In a preferred embodiment, the downstream wall of the spaceblock has a re-entrant contour to enhance the rotating cavity cooling flow.